

What is claimed is:

1. Central release device (10) for a hydraulic clutch actuation system having a cylinder housing (12), with a cylindrical wall (14), and a guide sleeve (16), which is arranged concentrically inside the cylindrical wall (14) and on which an annular piston (18), which can be operatively connected to a clutch and can be hydraulically actuated, as required, by way of a pressure chamber (20) defined by the cylindrical wall (14) and the guide sleeve (16), is displaceably guided in order to release the clutch, the guide sleeve (16) at its end having an annular flange (22) with an end face (24) facing away from the annular piston (18) and a radially outer circumferential surface (26), by way of which flange the guide sleeve (16) is fixed to an end face (28) of the cylinder housing (12), characterized in that at least one axial groove (30), which starts at the end face (28) and in which an insert (32) is firmly fitted, gripping behind the circumferential surface (26) of the annular flange (22), is formed in the cylinder housing (12) adjacent to the annular flange (22) in order to fix the guide sleeve (16) to the cylinder housing (12), an upper side (34) of the insert (32) facing away from the annular piston (18) lying in a plane defined by the end face (24) of the annular flange (22) or in front of this plane, viewed from the annular piston (18).
2. Central release device (10) according to Claim 1, characterized in that a plurality of axial grooves (30), which in plan view are of segmental shape, are formed in the cylinder housing (12), in each of which grooves an insert (32) of essentially complementary shape is fitted.
3. Central release device (10) according to Claim 2, characterized in that the cylinder housing (12) and the insert (32) are composed of ultrasonically weldable plastics and the insert (32) is welded ultrasonically to the cylinder housing (12).
4. Central release device (10) according to Claim 3, characterized in that the insert (32), on its inside (78) facing the guide sleeve (16) and on its outside (80) facing away from the guide sleeve (16), is in each case provided with a step (82 and 84 respectively), which when fitting the insert (32) into the assigned axial groove

(30) of the cylinder housing (12), can be welded under the effect of ultrasound to an adjoining flank (86 and 88 respectively) of the axial groove (30).

5. Central release device (10) according to Claim 4, characterized in that the step (82) on the inside (78) of the insert (32) and the step (84) on the outside (80) of the insert (32) are in their position and length matched to one another in the fitting direction of the insert (32), in such a way that the steps (82, 84) can be welded to the adjoining flanks (86 and 88) of the axial groove (30) simultaneously and essentially over the same length.

6. Central release device (10) according to Claim 5, characterized in that axial groove (30) in the cylinder housing (12) has an essential rectangular groove cross-section.

7. Central release device (10) according to Claim 6 characterized in that a retaining lug (102) with a bevel (104), which grips behind a circumferential bevel (106) of complementary shape on the annular flange (22), is formed on the insert (32), the latter bevel extending from the end face (24) of the annular flange (22) to the circumferential surface (26) thereof.

8. Central release device (10) according to Claim 7, characterized in that a recess (74) is formed in the cylinder housing (12), proceeding from the end face (28) thereof, in order to accommodate the annular flange (22), the depth (t) of the recess being equal to or less than the thickness (d) of the annular flange (22).

9. Central release device (10) according to Claim 8, characterized by an annular part (60), which is arranged at the end of the pressure chamber (20) facing away from the annular piston (18) between the guide sleeve (16) and the cylindrical wall (14) and which centers the guide sleeve (16) in relation to the cylindrical wall (14).

10. Central release device (10) according to Claim 9, characterized in that the pressure chamber (20) is sealed off from the surroundings by means of a sealing arrangement (64, 66) provided on the annular part (60).
11. Central release device (10) according to Claim 1, characterized in that the cylinder housing (12) and the insert (32) are composed of ultrasonically weldable plastics and the insert (32) is welded ultrasonically to the cylinder housing (12).
12. Central release device (10) according to Claim 11, characterized in that the insert (32), on its inside (78) facing the guide sleeve (16) and on its outside (80) facing away from the guide sleeve (16), is in each case provided with a step (82 and 84 respectively), which when fitting the insert (32) into the assigned axial groove (30) of the cylinder housing (12), can be welded under the effect of ultrasound to an adjoining flank (86 and 88 respectively) of the axial groove (30).
13. Central release device (10) according to Claim 12, characterized in that the step (82) on the inside (78) of the insert (32) and the step (84) on the outside (80) of the insert (32) are in their position and length matched to one another in the fitting direction of the insert (32), in such a way that the steps (82, 84) can be welded to the adjoining flank (86 and 88) of the axial groove (30) simultaneously and essentially over the same length.
14. Central release device (10) according to Claim 1, characterized in that axial groove (30) in the cylinder housing (12) has an essential rectangular groove cross-section.
15. Central release device (10) according to Claim 14, characterized in that a retaining lug (102) with a bevel (104), which grips behind a circumferential bevel (106) of complementary shape on the annular flange (22), is formed on the insert (32), the latter bevel extending from the end face (24) of the annular flange (22) to the circumferential surface (26) thereof.

16. Central release device (10) according to Claim 15, characterized in that a recess is formed in the cylinder housing (12), proceeding from the end face (28) thereof, in order to accommodate the annular flange (22), the depth (t) of the recess being equal to or less than the thickness (d) of the annular flange (22).
17. Central release device (10) according to Claim 16, characterized by an annular part (60), which is arranged at the end of the pressure chamber (20) facing away from the annular piston (18) between the guide sleeve (16) and the cylindrical wall (14) and which centers the guide sleeve (16) in relation to the cylindrical wall (14).
18. Central release device (10) according to Claim 17, characterized in that the pressure chamber (20) is sealed off from the surroundings by means of a sealing arrangement (64, 66) provided on the annular part (60).
19. Central release device (10) according to Claim 1, characterized in that a retaining lug (102) with a bevel (104), which grips behind a circumferential bevel (106) of complementary shape on the annular flange (22), is formed on the insert (32), the latter bevel extending from the end face (24) of the annular flange (22) to the circumferential surface (26) thereof.
20. Central release device (10) according to Claim 1, characterized in that a recess (74) is formed in the cylinder housing (12), proceeding from the end face (28) thereof, in order to accommodate the annular flange (22), the depth (t) of the recess being equal to or less than the thickness (d) of the annular flange (22).
21. Central release device (10) according to Claim 1, characterized by an annular part (60), which is arranged at the end of the pressure chamber (20) facing away from the annular piston (18) between the guide sleeve (16) and the cylindrical wall (14) and which centers the guide sleeve (16) in relation to the cylindrical wall (14).
22. Central release device (1) according to Claim 21, characterized in that the pressure chamber (20) is sealed off from the surroundings by means of a sealing arrangement (64, 66) provided on the annular part (60).